

E-119/C-92-318 ORDER REQUIRING COMPLETION OF CERTAIN TESTING
PROCEDURES

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Don Storm
Tom Burton
Marshall Johnson
Cynthia A. Kitlinski
Dee Knaak

Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of the Complaint Against Lake
Region Cooperative Electric Association

ISSUE DATE: August 26, 1994

DOCKET NO. E-119/C-92-318

ORDER REQUIRING COMPLETION OF
CERTAIN TESTING PROCEDURES

PROCEDURAL HISTORY

This matter involves the stray voltage complaint of Lonnie Nelson and Darrell Franze (the Complainants) against their supplier of electricity, Lake Region Cooperative Electric Association (LRCEA or the Cooperative).

The Commission has previously ordered two rounds of testing on the Complainants' farms as part of on-going investigative activities. These tests were conducted in December of 1992 and May of 1993.

On March 10, 1993, the Commission issued its ORDER DIRECTING CONTINUED TESTING AND INVESTIGATION in this matter. The Commission reviewed the data gathered pursuant to the Commission's November 17, 1992 Order and determined that further investigation in this matter was warranted. The Commission ordered certain changes in the electrical environments of both farms and directed the Cooperative to conduct on-site tests under the supervision of and pursuant to a testing protocol approved by Commission Staff to assess the impact of those changes upon the cows' electrical environment and upon the cows themselves. Finally, the Commission directed the Cooperative to file a plan for further reducing the voltage between the primary neutral and the earth on Complainants' farms (Voltage Reduction Plan or VRP).

On April 26, 1993 Lake Region Cooperative Electric Association (LRCEA or the Cooperative) filed a proposed Voltage Reduction Plan per the Commission's Order dated March 10, 1993.

On February 22, 1994, the Commission issued its ORDER IMPLEMENTING VOLTAGE REDUCTION PLAN AND REQUIRING FURTHER TESTING AND FILINGS. The Commission required LRCEA to implement in modified form its previously filed Voltage Reduction Plan (VRP) on the two distribution feeders serving the two farms that are the subject of this complaint.

On February 28, 1994, LRCEA filed its report on its VRP activities. In that filing, the Cooperative indicated that it had been denied access to the Complainants' farms to verify the integrity of the neutral connections and grounds on the primary system.

On May 18, 1994, LRCEA filed a Petition to Dismiss the Complaint. The Cooperative asserted, among other things, that the Complainants have thwarted the investigative process established by the Commission in its various Orders, including the Order of February 22, 1994.

On May 25, 1994, Commission Staff issued a second VRP letter to LRCEA requesting clarification of some issues and additional work efforts on the part of LRCEA.

On June 16, 1994 the Complainants filed their objections to LRCEA's motion to dismiss.

On June 21, 1994 LRCEA filed their response to Staff's second letter on the VRP. In this letter LRCEA provided some of the information requested and stated that they have fully complied with the Commission's February 22, 1994 Order.

On July 5, 1994, the Complainants filed comments on LRCEA's VRP activities and included a copy of a herd health study relating to primary grounding influences.

On July 12, 1994, Commission Staff made a site visit to LRCEA's offices and the two distribution lines subject of the VRP.

On July 22, 1994, the Department of Public Service (the Department) filed comments about LRCEA's VRP implementation activities.

On July 26, Staff's report regarding its July 12 site visit and a notice establishing the comment period for such report was served upon the parties.

On July 28, 1994, LRCEA submitted test results from an inspection of the underground primary cable located south of the Nelson farmstead.

On August 3, 1994, LRCEA filed comments on the Department's July 22, 1994 filing and on the Staff's July 12, 1994 site visit.

On August 4, 1994, the Complainants filed comments which they had previously FAXed to the Commission on August 3, 1994.

On August 5, 1994, The Electromagnetic Research Foundation (TERF) filed comments on the Department's July 22, 1994 filing and on the Staff's July 12, 1994 site visit. TERF had FAXed these comments to the Commission on August 3, 1994.

On August 11, 1994, the Commission met to consider this matter.

FINDINGS AND CONCLUSIONS

I. Preliminary Matters

A. Late-Filed Documents

In a Notice issued to the parties on July 26, 1994, the Commission set August 3, 1994 as the deadline for filing final comments in this matter. Two filings were received after the deadline: TERF's filing on August 5 and a filing from the Complainants on August 4, 1994.

The Commission takes its comment deadlines seriously. Filing deadlines serve to provide adequate time for the parties to evaluate them (and reply, where provided for) and for Commission Staff to take them into account in Briefing Papers. They are a necessary part of the regulatory process. The normal treatment of late-filed documents is exclusion from the record. In this case, however, the Commission will extend a one-time exception to TERF and the Complainants and allow the documents into the record. Henceforth, strict adherence to the established deadlines will be expected.

B. Request to Show a Video

At the hearing on this matter, the Complainants requested permission to play a video which Complainant Nelson alleged showed the effects of stray voltage on his cows. The request will be denied.

The video is not currently a part of the record. Since oral argument should be based on items in the record, it is clear that showing the video would be improper.

Further, if the request is viewed as a request that the video be accepted as part of the record used to consider the matters before the Commission in this Order, the request is likewise untimely. No prior notice that such a request would be made had been given to any party and no party had been given the opportunity to preview the video to assess its relevance.

C. Apportionment of Time for Oral Argument

The Complainants requested that each of them be allotted 10 minutes of oral argument time rather than being required to split 10 minutes between themselves. At the same time, intervenor MNREA requested that it be allowed to assign its 5 minutes of oral argument time to LRCEA, which would give the Cooperative 15 minutes of oral argument time.

Strictly speaking, no party has an absolute right to present oral argument in conjunction with the Commission's deliberation of matters that come before it. In this instance, the Commission found that it would be assisted in its deliberations by providing for oral argument and questioning of the parties by the Commission.

Once a decision has been made to allow oral argument, a fair allocation of oral argument time between parties is within the sound discretion of the Commission. In this case, the Commission found that it would be fair to treat the Complainants separately for purposes of allotting time for oral argument in conjunction with allowing the Cooperative to use the extra five minutes initially allocated to MNREA.

II. Motion for Dismissal of Complaint

Having considered LRCEA's motion to dismiss the complaint and heard the arguments of the parties, the Commission will not grant the Cooperative's motion at this time. In its Motion, LRCEA argued that the Commission should dismiss the Complaint for three reasons:

First, the Cooperative asserted that the Complaint should be dismissed because actions and positions taken by the Complainants have undermined the investigative process and the verification and implementation of the Voltage Reduction Plan (VRP).

The Commission is not pleased that the investigative process, specifically completion of the VRP, has not been implemented in accordance with the Commission's established timetable. The Commission views completion of the VRP as an essential prerequisite to further proceedings in this matter.

The Commission agrees that certain actions of the Complainants have not been conducive to expedited completion of the VRP. Specifically, prohibiting the Cooperative from entering the Complainants' property to conduct VRP activities obviously prevented completion of that aspect of the VRP. Such activity, of course, had no impact upon the Cooperative's completion of the VRP with respect to the Cooperative's off-farm facilities.

In addition, the record to date does not support LRCEA's further allegation that Complainants' alleged cutting of grounding wires has interfered with and undermined the verification of the VRP's results. While the Commission in no way condones the cutting of any ground wire, it is important to clarify that the aim of the VRP is to determine how much reduction in the voltage on Complainants' farms can be achieved by implementing a VRP. Such a determination will be made based on tests conducted by the independent investigator once the VRP is complete. Hence, the condition of any grounding wires (on or off-farm) at any time other than during the post-implementation verification tests will not affect that measurement or verification of the efficacy of the VRP.

Off-Farm Grounding Wires

The Cooperative reported that some grounding wires near the Nelson farm had been cut in February 1994. The Cooperative stated that it repaired the grounds, returned at a later date and found them cut again, and restored them a second time. From that date to present, the Cooperative reported finding only one ground wire cut, ground pole reference 35. The Cooperative repaired that ground wire on May 11, 1994. To date no further instance of cut off-farm grounding wires has been reported in connection with the Nelson farm.

Regarding the Franze farm, the Cooperative reported one off-farm ground wire cut, which the Cooperative replaced on May 4, 1994. No further cut off-farm grounding wires were reported.

Since any off-farm cut grounds have been restored, the fact that such wires were cut at one time will not affect the verification by the independent testing of whatever gains the VRP has made. That testing is to be done upon completion of the VRP and will depend solely on the condition of the grounds at that time. This being the case, there is no reason for the Commission to address whether there is sufficient evidence in the record to prove that the Complainants cut the off-farm wires that the Cooperative found in February.

On-Farm Grounding Wires

There is no evidence in the record from either LRCEA or the Complainants regarding the condition of the grounding wires on Complainants' farms during the implementation of the VRP, i.e. February 1994 to date. Moreover, as stated previously, verification of the results of the VRP is affected only by the condition of the grounding wires at the time that the verification testing is conducted.

Furthermore, the Commission does not view the Complainants' action in barring the Cooperative from their farms as the sole barrier to completion of the VRP. The Cooperative itself has failed to complete several items required by the VRP that are in no way connected to the Complainants' actions.

Finally, the Commission notes that since non-completion of the VRP blocks further inquiry in this matter and, in effect, halts the investigation, the principal victims of non-completion of the VRP are the Complainants themselves.

In these circumstances, it is clear that the Complainants have not undermined the investigative process to the point that dismissal would be warranted. At the same time, the Commission clarifies that refusing to allow the Cooperative to have legitimate access to inspect its facilities on Complainants' properties to carry out VRP activities with respect to those facilities will not be tolerated.

Second, LRCEA alleged that the Complaint should be dismissed because the Complainants, contrary to standards established by the National Electric Safety Code, Rural Electrification Administration, Minn. Stat. § 326.43 (1992) and standards and practices established by the Cooperative, are interfering with the public interest and safety by severing ground connections on property owned, maintained and under the responsibility of the Cooperative.

The standards cited by the Cooperative all indicate that competent authorities have determined that cutting ground wire is dangerous both for the person cutting the ground wire and the persons exposed to it. In addition to violating the cited safety standards, the act of cutting a ground wire belonging to another may render the person directing or doing the cutting to civil liability and even criminal penalties.

In the Commission's view, cutting grounding wires has no place among the legitimate tactics or methods available to deal with stray voltage. The Commission rejects the use of this activity and strongly urges any party contemplating using such activity, under whatever rationale, guise or pretext, to abandon it.

Through its public position on the subject and in its engagement in this Complaint, the Commission seeks to promote compliance with the cited safety standards.

The Cooperative has urged the Commission to view the Complainants' ground wire cutting actions (past and threatened) as grounds for dismissing this complaint. Despite the Commission's firm opposition to cutting grounding wires as a means to combat the perceived effects of ground current, the Commission must resist the appeal of the Cooperative's argument.

The Commission has direct jurisdiction over the actions of utility companies and indirectly over the consumers who seek the assistance of the Commission in resolving complaints against regulated utilities. In this case, the Commission is charged with attempting to resolve a particular complaint regarding service provided by a regulated utility. It is not the Commission's primary responsibility to enforce the cited standards. Accordingly, the Commission is determined to continue its problem solving effort as long as there is reasonable prospect of progress in the matter.

Finally, LRCEA appears to have adequate avenues to enforce its own standards against its members and seek civil and/or criminal action to protect its property where appropriate. In a letter to the Cooperative dated June 14, 1994, the Commission confirmed the Cooperative's options.

Third, the Cooperative argued that the Complaint should be dismissed because, in LRCEA's view, the Complainants have thwarted the normal investigative process established by various Orders of the Commission, including the Commission's February 22, 1994 Order in this matter.

This argument is basically the first argument rephrased. As indicated previously, cut grounding wires have not prevented with the completion of the VRP and, if fully repaired at the time of the verification testing by the independent tester, will not interfere with verification of the results of the VRP.

With respect to the Complainants having denied the Cooperative access to their farms, this issue appears to have been resolved. The Complainants explained that their action in denying the Cooperative access was based on their interpretation of the Commission's February 22, 1994 Order and fear that the Cooperative would install additional grounding wires on their farms. The Commission has clarified for Complainants that the Order in no way authorized them to deny access and the Complainants have apparently understood and accepted that clarification.

Complainants requested clarification regarding the purpose of the Cooperative's presence on their farms. The Commission clarified that the Cooperative's purpose will be to complete the VRP activities with respect to the Cooperative's facilities on the farms. Pursuant to the Commission's February 22, 1994 Order in this matter, the Cooperative is prohibited from installing additional grounding wires on the Complainants' farms.¹

In addition, the February 22, 1994 Order authorized Commission Staff to develop a protocol for testing pre- and post-VRP implementation conditions at the two farms and to arrange for an independent investigator to conduct that testing. Order at page 26. As part of its protocol, Commission Staff has established the level of grounding existing on the farms as of the February 22 Order as the level that will be used as a reference point in later testing to determine the efficacy of VRP activities.

Given these clarifications, it is clear that the Complainants will need to allow LRCEA personnel to enter their premises for purposes of completing the VRP with respect to such facilities. Further, in conjunction with performing VRP activity, it is understood that the Cooperative may inspect and test its facilities located on Complainants' farms, repairing or replacing any such facilities as needed to establish electrical conditions as they existed as of the February 22 Order.

III. Completion of the VRP and Related Activities

In these circumstances, the Commission is guardedly optimistic that the basis for going forward to complete the VRP has been established. The Commission proceeds with this matter with the understanding that the Complainants will grant access to the Cooperative forthwith and that the Cooperative will move with due diligence to complete the remaining items on the VRP and certain additional items within 30 days of the Commission's August 11 meeting on this matter. The Commission will review the progress in this matter at the expiration of the 30 day period.

The Commission notes that the Cooperative has requested clarification of the scope of the VRP and has even stated that, based on its interpretation of the February 22, 1994 Order, it has completed the VRP. In fact, several VRP items have not been completed, including the following:

- Concerns over splice testing completeness: The Nelson feeder test record is incomplete or at least confusing compared to what was observed in the field. In addition, splices that LRCEA labeled as inaccessible were for the most part reachable with little additional effort by LRCEA. There are still neutral splices in existence which have not been tested. From a maintenance perspective these should all be tested at some time in their useful life. Some neutral splices serving tap loads or branches are still the older bolted clamp type connections on both feeders.
- Pole-mounted regulators on the Nelson feeder require further investigation.
- The record lacks load balancing information. Only on the July 12th visit was it determined what methodology LRCEA is using for the basis of its position. No load changes at all have been made on either feeder. Loading calculations have not been provided, nor LRCEA's modeling techniques adequately reviewed in this record.

In addition to completing the VRP, the Commission will require additional voltage reduction-related activities (VRP-type items) within the 30 day time period. The Commission will authorize its Staff to specify those VRP-type items for the Cooperative. Such items may include

¹ See Ordering Paragraph 1 (3) at page 26 of the February 22, 1994 Order.

upgrading the transformer bank on the Nelson feeder and further investigating the system power factor.

To avoid any possible misunderstanding as to what work must be completed within the 30 day period, the Commission will direct its Staff to meet with the Cooperative employees before the work is commenced. Commission Staff shall have authority to specify on the Commission's behalf what must be done to complete and augment the VRP within the 30 day time frame.

IV. Future Activity in this Docket

Following review of the 30 day activity, the Commission will proceed with such action as is appropriate under the circumstances then known.

In the event of cooperation by the Complainants in completing the VRP, it is expected that the Commission would proceed with the process as outlined in the February 22, 1994 Order. In that Order, the Commission stated:

[Following implementation of the VRP], the Commission will mandate post-implementation testing to measure the impact of the VRP changes in the barns, near the farms, and for some distance along the line. Commission Staff will develop the protocol and arrange for an independent investigator to conduct the testing. As soon as the independent investigator has formulated its findings, the Commission will make them available to the parties for comment. Order at page 24.

In addition to testing to measure the impact of the VRP changes, the Commission will direct the independent investigator to do certain testing requested by the Complainants in their April 29, 1994 letter to the Cooperative. Such testing appears reasonable and will hopefully provide useful information.

Once the independent investigator's report has been received and parties have had an opportunity to comment on it, the Commission will again evaluate the record to determine whether further action is warranted. At that time, the Commission will specifically

consider, among other options, the Department's recommendations to undertake reconstruction activities such as replacing voltage regulators, reconductoring, adding grounding per the Department's suggestion.

ORDER

1. Upon notice and at all reasonable times, Complainants shall give LRCEA personnel free passage and access to the Cooperative's distribution facilities located on the Complainants' farms for purposes of completing the VRP with respect to such facilities (i.e. inspecting and testing its distribution facilities located on Complainants' farms per the requirements of Ordering Paragraph 2) and repairing or replacing any such facilities to the level that existed as of the Commission's February 22, 1994 Order.

If Commission Staff determines that the required access is not being accorded the Cooperative, Staff will bring this circumstance to the Commission's attention.

2. Within 30 days of the Commission's August 11, 1994 meeting regarding this matter, LRCEA shall complete all the VRP items and VRP-type items specified by Commission Staff.
3. Commission Staff will meet with LRCEA personnel to clarify for them what must be done to meet the requirements of Ordering Paragraph 2.
4. Within 10 days after the close of the 30 day period established in Ordering Paragraph 2, the LRCEA shall file a report of its compliance with the provisions of this Order and serve copies on all parties.
5. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)